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COUNTRY	East Germany/USSR	REPORT	
SUBJECT	Specifications for Launch Radio Direction Finder Ordered from East Germany by the USSR	DATE DISTR.	1 MAY 1957
		NO. PAGES	1
		REQUIREMENT NO.	RD
DATE OF INFO.		REFERENCES	
PLACE & DATE ACQ.			

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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

technical specifications, both electrical and mechanical, for a launch radio direction finder ordered by the USSR from East Germany. (4 pages in English) 25X1

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TECHNICAL SPECIFICATIONS

FOR

A LAUNCH RADIO DIRECTION FINDER

I. Purpose

The launch radio direction finder is a navigation apparatus and it serves to determine one's position. It can be employed either on vessels (rowing boats and saving motor boats), or on firm land. The direction finder is also used as a part of the equipment of sea vessels of the first and second categories in the 1st and 2nd group in accord with the Register of the U.S.S.R, rule 11, volume I, section IV, paras 67 and 68 (expert), and also for the national and foreign corresponding ships.

II. Technical Specifications

a. Electrical Data

(1) The launch radio direction finder should permit to determine the direction of transmitters operating at diapasons of between 250 and 545 kilohertz with A_1, A_2, A_3 and B working rations.

(2) The scale of the direction finder receiver should be graduated in kilohertz; the diapasons of frequencies between 285 and 325 kilohertz and between 440 and 512 kilohertz should be respectively marked in different colours.

(3) The general deviation between the reception frequency and the established frequency in relation with the scale's graduation should not exceed at any point of the diapason - 0.25 per cent of the specified frequency.

(4) The product of the minimum width in degrees by the field intensity should not exceed 100 (?) within the entire reception diapason (i.e. for 1° of the width minimum a field intensity of 100 microvolt is required, for 2° ..... 50 microvolt).

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(5) The maximum extent of the apparatus' error should not exceed 1°.

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(6) The relationship of the side determination should be of 1:4.

(7) The attenuation of the specular frequency and also the dielectric constant of the intermediate frequency should reach the magnitude of 40 decibel.

(8) The sensibility with the reception (A_1), in relation to the signal/noise at 10 decibel, should represent approximately 20 microvolt.

(9) The width of the intermediate frequency's band should correspond to - ± 2 kilohertz.

(10) The receiver should let pass sound frequencies within the diapason of between 300 and 200 hertz; the magnitude of diffraction of discharge tensions in relation to 800 hertz should not exceed ± 5 decibel.

(11) The intensification of tension of the direction finder's receiver should be regulated manually to a maximum of 40 decibel.

(12) The discharge (outlet) of the receiver should be designed for branching of earphones with a continuous current 4,000 ohm resistance. It should be possible to branch simultaneously two pairs of earphones. The minimum discharge capacity is of 10 microvolt.

(13) The time required for the alteration of frequency should not exceed 5 seconds.

(14) The receiver may be equipped with a measuring apparatus, which is used to check the intensity of feeding and the minimum of direction finding.

(15) Feeding of the launch radio direction finder should be ensured, either by means of small dry batteries, or ~~of~~ a hand generator.

(16) A two-hour minimum of ~~an~~ uninterrupted exploitation should be guaranteed.

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b. <u>Mechanical Requirements</u>

(1) The transmission between the tuning handle and the axle of a transportable condenser should be, at least, 5 : 1.

(2) The launch radio direction finder should be placed into a hermetically-sealed container with, either two handles, or shoulder straps to enable its easy transportion to the launch. The container should be painted yellow ~~from~~ outside.

(3) Once ~~closed~~, the launch radio direction finder should be able ~~to bear a blow without~~ any damage, when thrown into the water from a height of 15 metres and ~~also to possess a positive capacity~~ of ~~floating~~.

(4) The full weight of the launch radio direction finder should not exceed 12 kilograms.

(5) All parts of the radio direction finder should be manufactured out of a non-magnetic material.

(6) A free accessibility to inner parts and lamps of the receiver ~~ought to be realized~~ within five minutes.

(7) In the technical construction, specifications for choking coils and transformers the regulations of processing should be observed in accord with the Section X, - and for the valves - with the Section VII. (Cf. instructions for the additional finishing of valves, choking coils and transformers). Publishers: NKS.

(8) Bolting and nut junctions up to 3 mm. may be sealed by varnish against self-opening only in the case, when the parts to be joined are not to be submitted to a strong vibration and when these bolting junctions represent mechanical fixing of accessory pieces. For other couplings the 198 para. of the Soviet Naval Register is valid.

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(9) For the realization of the launch direction finder, we beg to comply with the meaning of the decrees of the Monitor of Laws 98 of the [illegible] of the 1st of September 1953 (Decree on the installation of radio equipment on the sea vessels and on the observance of the naval signal service (decree on the naval radio) of the 3.[illegible].53, rule 11, volume II., Section III, paras 461 to 534 and Section XV, paras 829 and 856.

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